Amendments to the Specification:

Please replace paragraph [0006] with the following amended paragraph:

[0006] The present invention relates to methods and apparatus for hermetically sealing an optical fiber in a feedthrough connection. In brief overview, the optical fiber is mounted in a housing whose physical properties differ from that of the fiber by utilizing a structure in ~~accord~~ accordance with the present invention. The structure, typically in transition bushing form, is formed from at least two materials, such that the physical properties of a first material are selected to match the physical properties of the optical fiber, and the physical properties of a second material are selected to match physical properties of the housing. When the matched physical properties are the coefficients of thermal expansion (CTE) of the fiber and the housing, the result is a fiber optic mounting that remains hermetically sealed despite changes in ambient temperature that would typically induce stresses in the seal, potentially causing its failure.

Please replace paragraph [0017] with the following amended paragraph:

[0017] FIG. 1 depicts an embodiment of a transition bushing for hermetically sealing an optical fiber in a feedthrough utilizing a ferrule in ~~accord~~ accordance with the present invention;

Please replace paragraph [0018] with the following amended paragraph:

[0018] FIG. 2 presents a flowchart of a method for hermetically sealing an optical fiber in a feedthrough utilizing a ferrule and a transition bushing in ~~accord~~ accordance with the present invention;

Please replace paragraph [0019] with the following amended paragraph:

[0019] FIG. 3 depicts an embodiment of a transition bushing for directly sealing an optical fiber in a feedthrough in ~~accord~~ accordance with the present invention;

Please replace paragraph [0020] with the following amended paragraph:

[0020] FIG. 4 presents a flowchart of a method for directly sealing an optical fiber in a feedthrough utilizing a transition bushing in ~~accord~~ accordance with the present invention; and

Please replace paragraph [0023] with the following amended paragraph:

[0023] The present invention permits the hermetic sealing of an optical fiber into a non-ferrous metallic housing to exclude external environmental influences—such as moisture, dust, and air—that typically cause problems with the operation of the electro-optical device contained within the housing. When direct mounting of the fiber to the non-ferrous metallic housing is impractical, the use of a bimetallic structure in ~~accord~~ accordance with the present invention (e.g., in transition bushing form) permits the hermetic sealing of the optical fiber to the housing, as discussed below. This is an exemplary use, as embodiments of the present invention are generally suitable for sealing.

Please replace paragraph [0027] with the following amended paragraph:

[0027] The combination of the ferrule 100 and the optical fiber 104 is soldered in place in the transition bushing 108, forming a ferrule solder joint 120. In ~~accord~~ accordance with the present invention, the transition bushing is fabricated from disparate materials. For example, the bushing 108 in FIG. 1 is formed from a ferrous portion 124 and a transition alloy portion 128.

Please replace paragraph [0031] with the following amended paragraph:

[0031] FIG. 2 presents a flowchart of an embodiment of a method for hermetically sealing an optical fiber in ~~accord~~ accordance with the present invention. Referring to FIG. 2 (and still to FIG. 1), an optical fiber 104 mounted in a ferrule 100 is provided (STEP 200). A transition bushing 108 having multiple sections with different physical properties is also provided (STEP 204). The ferrule 100 is mounted in the transition bushing 108 (STEP 208), for example, using a solder joint 120 between the ferrule 100 and a ferrous portion 124 of the transition bushing 108. The transition bushing 108 is mounted in a housing 112 (STEP 212).